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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/715,809 | 11/17/2003 | Krishnan Suresh | KSI-325US | 5201 |
| 56223 | 7590 | 03/06/2006 | EXAMINER | |
| KULICKE AND SOFFA INDUSTRIES, INC. 2101 BLAIR MILL ROAD WILLOW GROVE, PA 19090 | | | EDMONDSON, LYNNE RENEE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1725 | |

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,809

Applicant(s)

SURESH ET AL.

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/21/06.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12-15, 17, 18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/17/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. <u>022606</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5-7, 10-15, 18, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Okada et al. (USPN 6126432).

Okada teaches a wire-bonding machine comprising a wire bonding head (13,113) with a wire-bonding tool (capillary 12) mounted thereto (figure 2) and having a portion that is pivotable around both vertical and horizontal axes (col 7 line 41 – col 8 line 5), a work table and a conveyance system (col 7 lines 41-61). When the bond head is rotated at an angle, the fixture is translated at an angle relative to the bond head. The device further comprises a camera (111) (col 7 lines 47-55). As shown in figure 3, a motor drive assembly (14,114) is engaged with the bond head.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (USPN 6126432) in view of Kinnaird (USPN 5839640).

Okada teaches a wire bonding machine comprising a wire bonding head with a wire bonding tool mounted thereto (figure 2) and having a portion that is pivotable around both vertical and horizontal axes, a work table and a conveyance system (col 7 lines 41-61). When the bond head is rotated at an angle, the fixture is translated at an angle relative to the bond head. The device further comprises a camera (111) (col 7 lines 47-55).

Kinnaird teaches a wire bonding machine comprising two wire bonding heads (150,152) with wire bonding tools (202, 212) mounted thereto (figure 5) and having a portion that is pivotable (rotate and swivel, col 1 lines 10-25, col 4 lines 26-42 and col 5 lines 5-32), a work table and a conveyance system (146) (col 4 lines 1-59). When the bond head is rotated at an angle, the fixture is translated at an angle relative to the bond head. The device further comprises a camera (178) (figure 5 and col 4 lines 18-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ multiple bonding heads to perform simultaneous processes and thereby increase production in a simple and cost-effective manner. Multiple bond heads are an obvious variation of a single bondhead.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (USPN 6126432) in view of Koseki (USPN 6122307).

Okada teaches a wire bonding machine comprising a wire bonding head with a wire bonding tool mounted thereto (figure 2) and having a portion that is pivotable around both vertical and horizontal axes, a work table and a conveyance system (col 7 lines 41-61). When the bond head is rotated at an angle, the fixture is translated at an angle relative to the bond head. The device further comprises a camera (111) (col 7 lines 47-55).

Koseki teaches a wire bonding machine comprising a wire bonding head (1) with a wire bonding tool (4) mounted to it (figure 1 and col 5 lines 21-50) and having a portion that is pivotable (col 5 lines 51-64), a work table (5) and a conveyance system (3) which moves in multiple directions (col 5 line 22 – col 6 line 23) via motors (8, 9 and 13). Devices are positioned in a magazine (plurality of trays 6), which are fed to the conveyance system (col 5 lines 34-44). When the bond head is rotated at an angle, the fixture is translated at an angle relative to the bond head. The device further comprises cameras secured to the bond head (16, col 5 line 64 – col 6 line 13) and the conveyance system (17, col 7 lines 34-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to a magazine and handling system to facilitate positioning and increase process reliability.

Response to Arguments

6. There appears to have been a miscommunication during the interview regarding the proposed amendment. A different proposed amendment (unofficial) was submitted

for the interview. The formal amendment entered into the action is slightly different, however neither places the case in condition for allowance as neither overcomes the Okada reference.

7. Applicant's arguments with respect to Okada have been considered however upon further examination it has been determined that the Okada apparatus is capable of wire bonding. Although the object bonded is a transmission line, the line is shaped like a wire and bonded with a capillary as a wire would be. Throughout the reference, the process is taught as analogous to the "wire bonding" process or method. See col 10 lines 1-5, col 12 lines 45-66, col 13 lines 48-65 and col 22 lines 1-11. Wire bonding is taught in col 7 lines 18-20, however it is not clear if this is performed with different equipment.

8. In response to applicant's argument that Okada teaches a line forming apparatus rather than a wire bonding apparatus, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

9. Regarding applicant's argument that Okada is capable of more movement in more directions than the instant invention, the Okada apparatus can be fixed in one

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direction, while moving in another. The apparatus is capable of the same movements as the instant invention.

10. Therefore the 102 rejection of claims 1, 3, 6, 7, 10, 12-15, 18, 20 and 21 as anticipated by Okada stands and now includes claims 15 and 21. The 103 rejection of claims 2, 4 and 17 as obvious over Okada in view of Kinnaird stands. The 103 rejection of claims 8 and 9 as obvious over Okada in view of Koseki also stands.

Allowable Subject Matter

11. Claim 16 is allowed.

12. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson
Primary Examiner
Art Unit 1725

LEB
2/26/16

LRE